

Fig. 1

SCANNED, # —

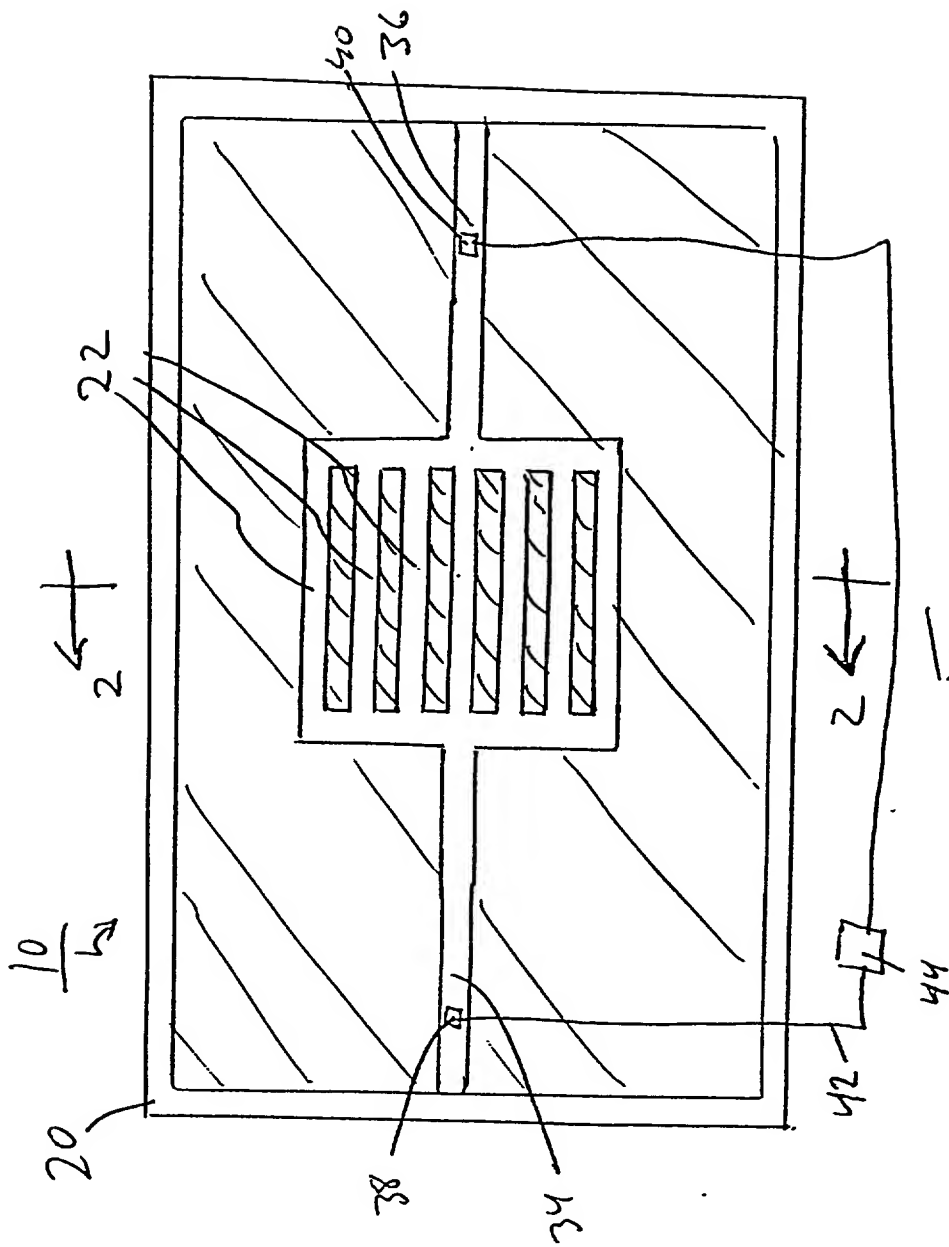


Fig. 2A

The diagram illustrates a microfluidic device setup. An incident laser beam with wavelength λ (24) is directed at a PDMS layer (10) which contains channels filled with fluid (16). The channels have a width of $50\ \mu\text{m}$. The PDMS layer is bonded to a glass slide (14). A thin layer (12) is present on the glass slide. The fluid in the channels has a thickness of $20\ \mu\text{m}$. The laser beam is focused through the PDMS and the fluid channels, creating a focal spot (26) where light scattering is detected. The scattered light is collected by a lens (28) and detected by a photodetector (32). The incident beam is labeled I_0 (27), and the scattered light is labeled I_1, I_2, I_3 (26).

TOP SECRET

A

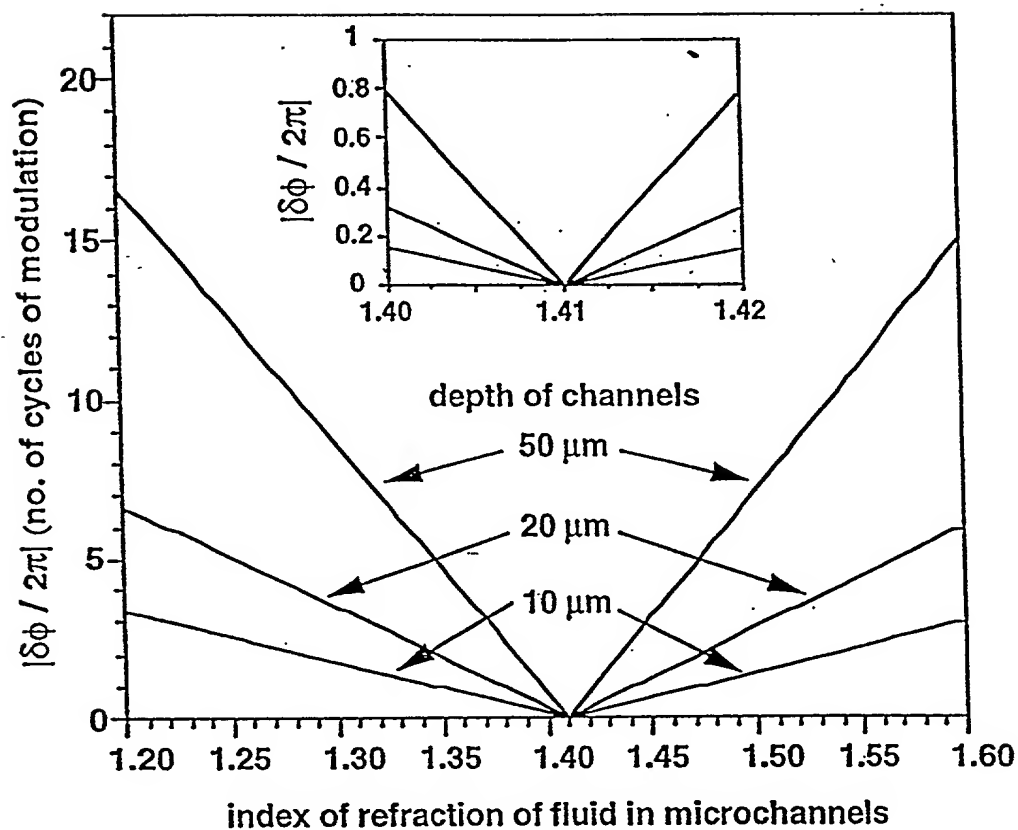


Fig. 4

B

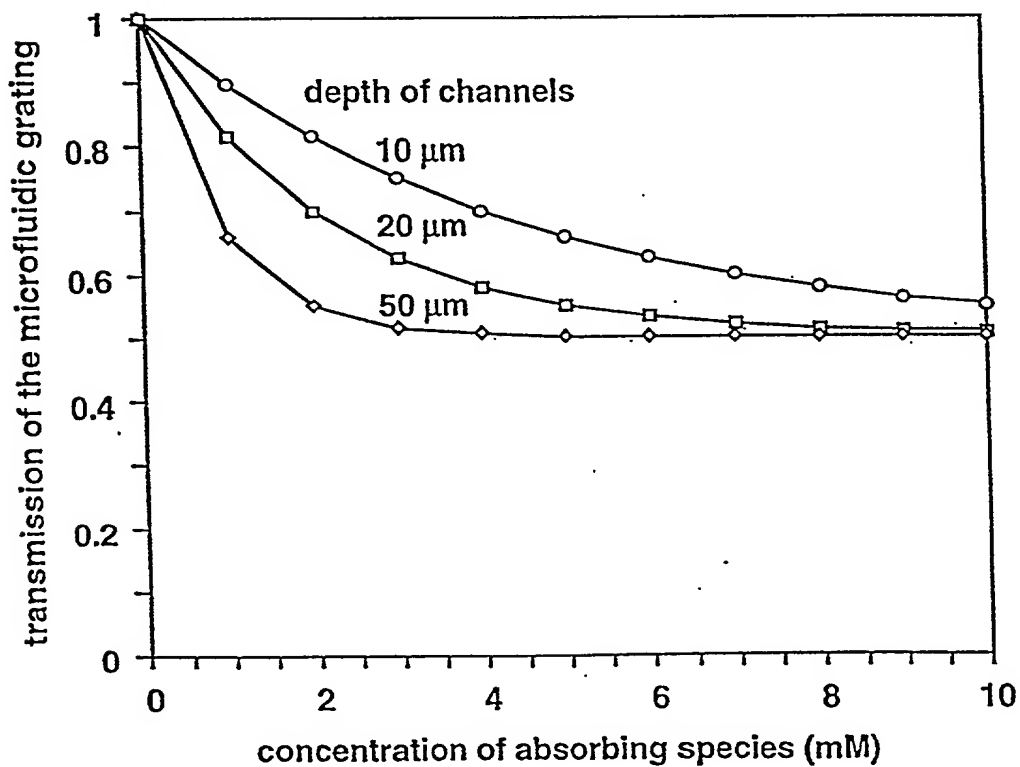
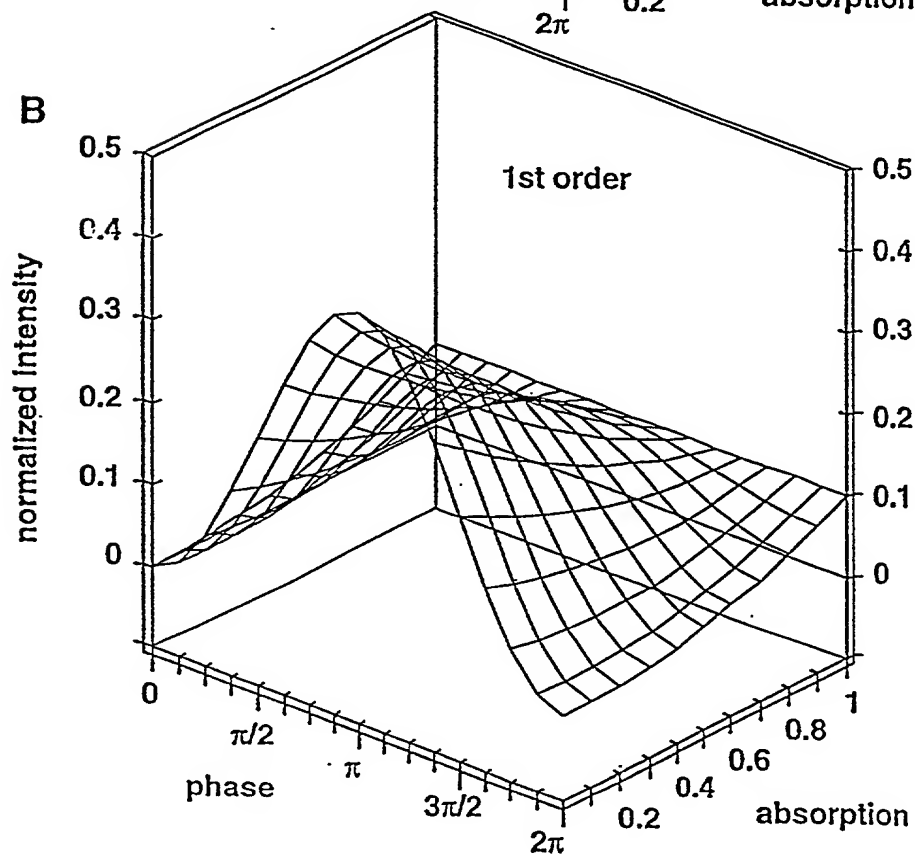


Fig. 5

A 3D surface plot showing the normalized intensity of the 0th order as a function of phase and absorption. The vertical axis is labeled 'normalized intensity' and ranges from 0 to 1. The horizontal axis is labeled 'phase' and ranges from 0 to 2π , with major ticks at 0, $\pi/2$, π , $3\pi/2$, and 2π . The depth axis is labeled 'absorption' and ranges from 0 to 1, with major ticks at 0, 0.2, 0.4, 0.6, 0.8, and 1. The surface is a wireframe mesh. It shows a sharp dip in intensity at phase π for low absorption, which broadens and shifts as absorption increases. The text '0th order' is printed in the upper right region of the plot.



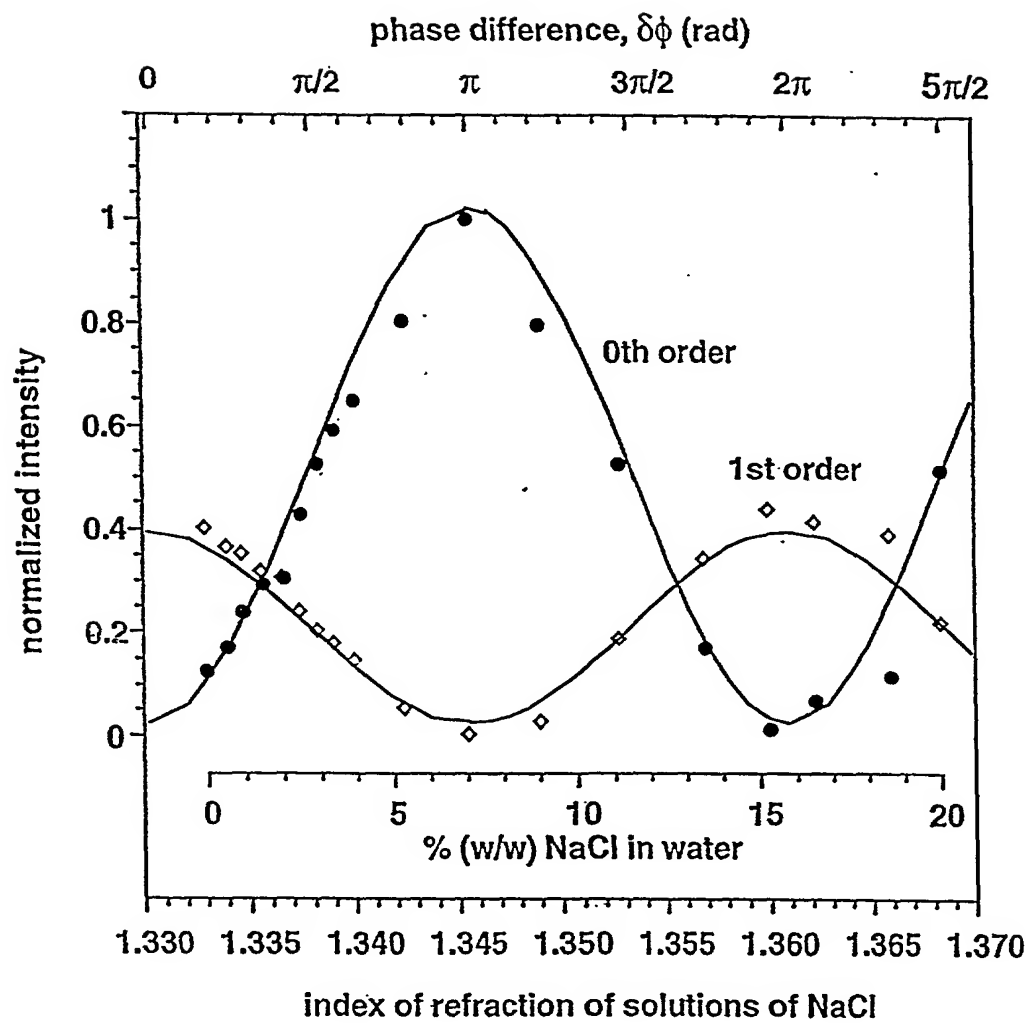
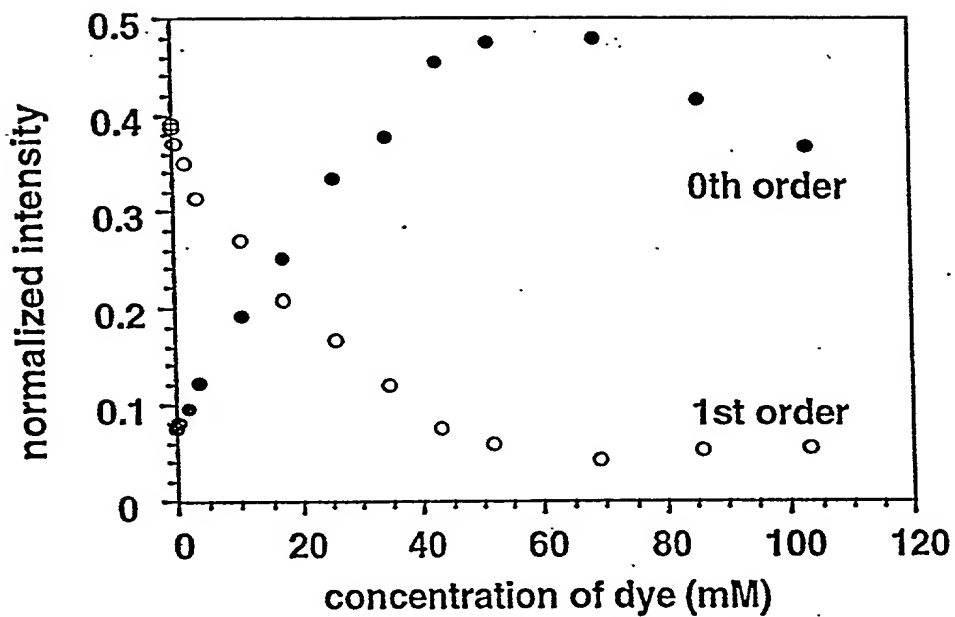
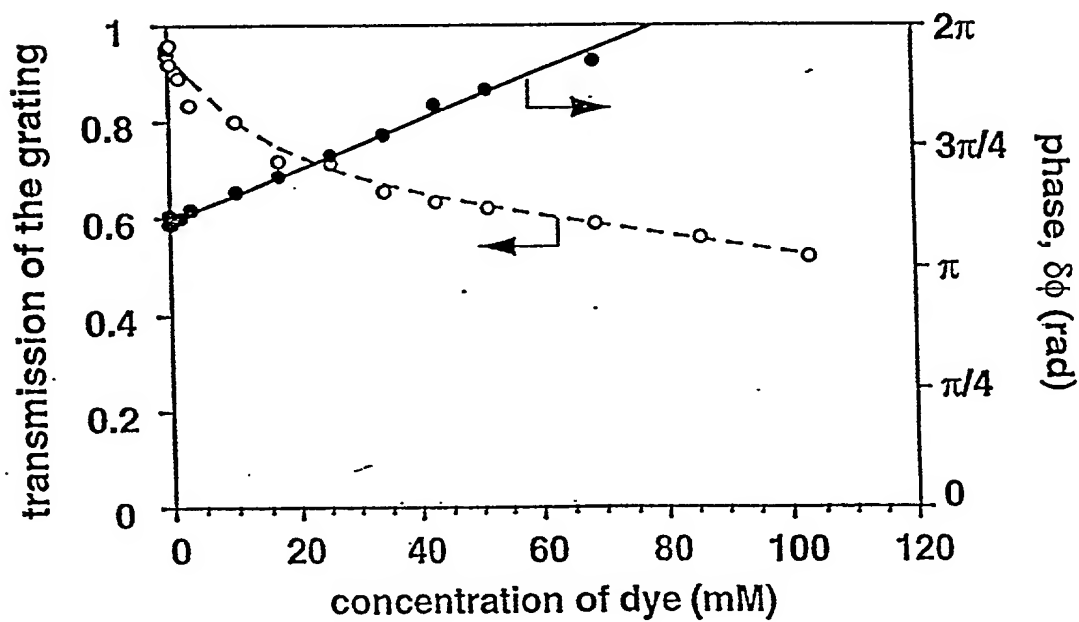


Fig. 8

A



B



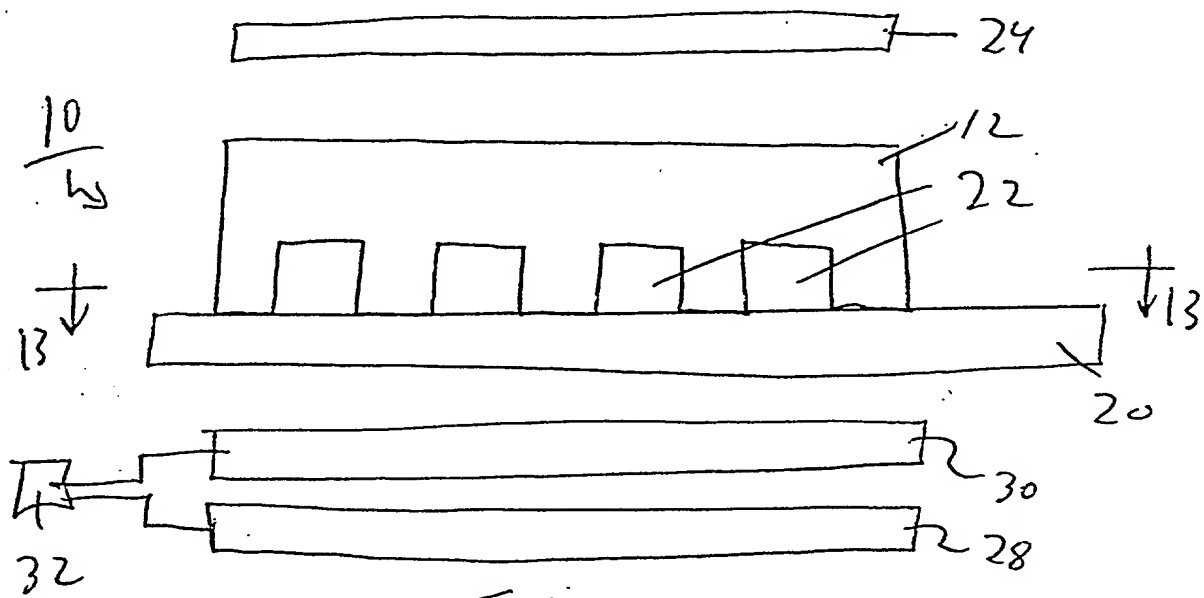


Fig. 11

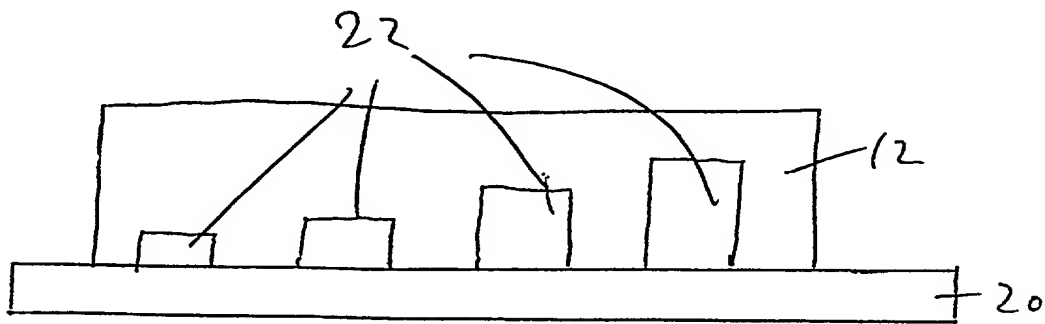


Fig. 12

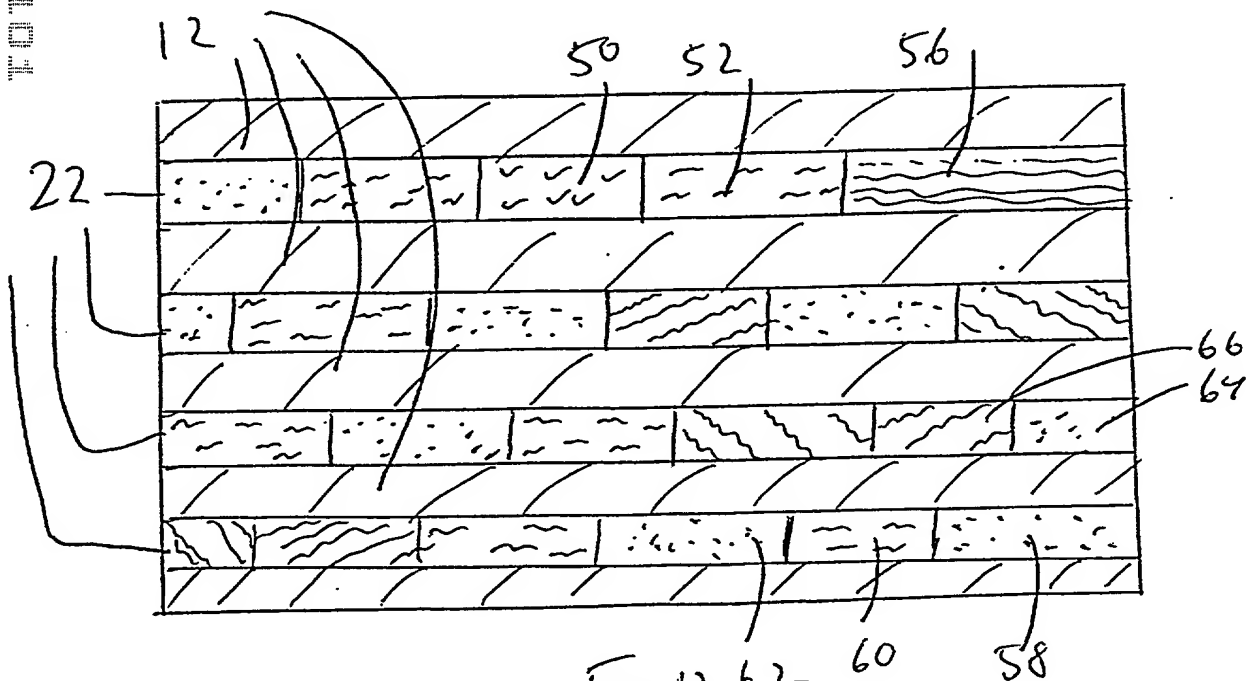


Fig. 13